

# Event Horizon

September 2004

Volume 11 Issue 10

## EyeCandy



M22 At Starfest 2004 by *Bob Christmas*

This image of Globular Cluster M22 was scanned @ 1200 dpi directly from negative of original 400mm f/5.6 photo taken on Saturday, August 21, 2004.

Location in Sky: Sagittarius

Location on Earth: Mount Forest, Ontario

Exposure: 7 minutes

Film: Kodak MAX 800

## Upcoming Events

**Event:** HAA meeting

**Date:** Friday October 8, 2004 7:30PM

**Location:** The Spectator building.

**Admission:** Free. Everyone is welcome!

**Event:** Astronomy talk with Phil Mozel of the Ontario Science Centre

**Date:** Saturday October 9 at 7:00 p.m.

**Location:** Mountsberg

**Details:** A twilight talk followed by observing, perhaps with a campfire thrown in.

## Web Watch

Have Blood, Will Travel

[http://science.nasa.gov/headlines/y2004/19aug\\_blood.htm](http://science.nasa.gov/headlines/y2004/19aug_blood.htm)

Soldering Surprise

[http://science.nasa.gov/headlines/y2004/16aug\\_solder.htm](http://science.nasa.gov/headlines/y2004/16aug_solder.htm)

The Pathway Less Traveled

[http://science.nasa.gov/headlines/y2004/27aug\\_fatrat.htm](http://science.nasa.gov/headlines/y2004/27aug_fatrat.htm)

Domain Name and Web hosting for the Hamilton Amateur Astronomy club supplied by

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## Chair's Report

by Glenn Muller

The crisp days and clear nights of Fall tend to sharpen senses and motivate new adventures. As we cast off from the more casual pace of Summer, a transitional blend of longer nights and moderate seasonal temperatures often provides the most comfortable and convenient observing of the year.

Not that we've spent the summer just lounging around; between rain showers we found dark skies, attended star parties, and invited the public to catch some Perseids. Though the latter event did come down to a last-minute call, over a hundred people made it to our dark sky site at Binbrook. It's a relationshipship that seems to be working and, in the coming weeks, we have a couple more outreach projects on tap.

One is the Moon Madness Marathon originally proposed by Hal Mueller back in June. After much perusing of the ephemeris, and personal schedules, we've penciled it into the four nights of November 18<sup>th</sup> - 21<sup>st</sup>. While that time of year isn't known for long periods of clear sky, the early sunsets should be quite conducive to family activity. If you can attend, come on out to Bayfront Park around 7pm.

Our second project is an astronomy-related contest for public and high school students. De-

tails for this are in the process of being finalized but, with two telescopes provided by Mike Spicer as prizes, we expect to have plenty of entries.

Finally, but in the same vein, Canadian astronomy clubs are being invited to submit proposals for an hour of imaging time using equipment on the famous Gemini telescopes. More information on this exciting opportunity can be found on the HAA website, and I'd like your thoughts on possible targets - e-mail me your suggestions, but no later than September 20<sup>th</sup> please, as the proposal deadline is the 30<sup>th</sup>.

So, how's that for a kick-off to a "new" season! All you need now is a warm sweater, a way to keep dew off your optics, and a dark, flat place to put your mount. Happy Collimating!

Glenn invites your comments on these topics or any aspect of the club. He can be reached via [chair@amateurastronomy.org](mailto:chair@amateurastronomy.org)



## Council meetings

All club members are welcome to attend the council meetings. Contact [info@amateurastronomy.org](mailto:info@amateurastronomy.org) for details.



Event Horizon is a publication of the Hamilton Amateur Astronomers (HAA).

The HAA is an amateur astronomy club dedicated to the promotion and enjoyment of astronomy for people of all ages and experience levels.

The cost of the subscription is included in the \$25 individual or \$30 family membership fee for the year. Event Horizon is published a minimum of 10 times a year.

## HAA Council

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 Councillor ..... Bob Christmas  
 Councillor ..... Cathy Tekatch  
 Councillor ..... John Gauvreau

PO Box 65578  
 Dundas, ON  
 L9H 6Y6

(905) 575-5433

## Email Reminder notice

We send email reminders before each meeting which describes the location, time and topic of the general meeting.

If you're not on the list, make sure that you receive your reminder by sending a note to: [publicity@amateurastronomy.org](mailto:publicity@amateurastronomy.org)



## Resisting Retirement: Earth Observing 1

By Patrick L. Barry

The Hubble Space Telescope isn't the only satellite that scientists have fought to keep alive beyond its scheduled retirement. Scientists also went to bat for a satellite called EO-1, short for Earth Observing 1, back in 2001 when the end of its one-year mission was looming.

The motivation in both cases was similar: like Hubble, EO-1 represents a "quantum leap" over its predecessors. Losing EO-1 would have been a great loss for the scientific community. EO-1, which gazes back at Earth's surface instead of out at the stars, provides about 20 times more detail about the spectrum of light reflecting from the landscape below than other Earth-watching satellites, such as Landsat 7.

That spectral information is important, because as sunlight reflects off forests and crops and waterways, the caldron of chemicals within these objects leave their "fingerprints" in the light's spectrum of colors. Analyzing that spectrum is a powerful way for scientists to study the environment and assess its health, whether it's measuring nitrate fertilizers polluting a lake or a calcium deficiency stressing acres of wheat fields.

Landsat 7 measures only 8 points along the spectrum; in contrast, EO-1 measures 220 points (with wavelengths between 0.4 to 2.5  $\mu$  m) thanks to the prototype Hyperion "hyperspectral" sensor onboard. That means that EO-1 can detect much more subtle fingerprints than Landsat and reveal a more complete picture of the chemicals that comprise the environment.

As a NASA New Millennium Program mission, the original purpose for EO-1 was just to "test drive" this next-generation Hyperion sensor and other cutting-edge satellite technologies, so that future satellites could use the technologies without the risk of flying them for the first time. It was never meant to be a science data-gathering mission.

But it has become one. "We were the only hyperspectral sensor flying in space, so it was advantageous

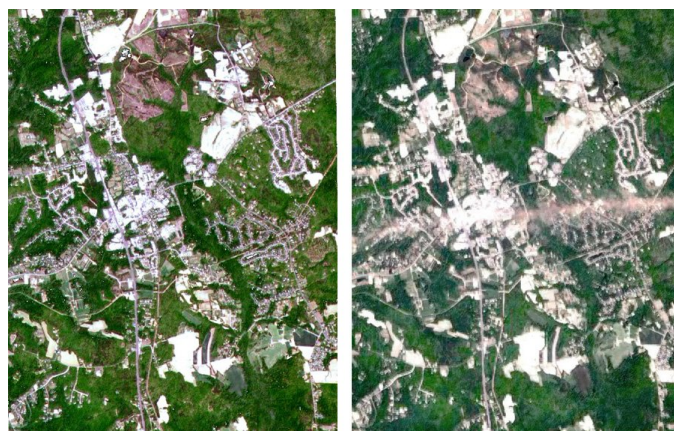
to keep us up there," says Dr. Thomas Brakke, EO-1 Mission Deputy Scientist at NASA's Goddard Space Flight Center.

Now, almost three years after it was scheduled to be de-orbited, EO-1 is still collecting valuable data about our planet's natural ecosystems. Scientists have begun more than a dozen environmental studies to take advantage of EO-1's extended mission. Topics range from mapping harmful invasive plant species to documenting the impacts of cattle grazing in Argentina to monitoring bush fires in Australia.

Not bad for a satellite in retirement.

Read about EO1 at [eo1.gsfc.nasa.gov](http://eo1.gsfc.nasa.gov). See sample EO-1 images at <http://eo1.usgs.gov/samples.php>. Budding young astronomers can learn more at [spaceplace.nasa.gov/eo1/\\_1.htm](http://spaceplace.nasa.gov/eo1/_1.htm).

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



*These images, made from EO-1 data, are of La Plata, Maryland, before and after a tornado swept through May 1, 2002.*

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This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.





National Research Council  
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2004 July 20

**NRC-CNRC**

Hamilton Amateur Astronomers  
Box 65578, Dundas Postal Outlet  
Dundas, ON  
L9H 6Y6

**RE: A Contest for One Hour of Gemini and CFHT Imaging Time for Amateur Astronomers in Canada.**

We announce an exciting opportunity for Canadian amateur astronomers to obtain images at two of the world's forefront observatories: the 8-metre Gemini North and the 3.6-metre Canada-France-Hawaii telescopes. This competition is meant to recognize the important and continuing role played by Canadian amateur astronomers in bringing astronomy to the public and supporting astronomical science.

**Overview:** One hour of observing time during the 2004B semester on each of the Gemini North and Canada-France-Hawaii telescopes has been set aside to allow the winner of a competition amongst Canadian amateur astronomers to obtain images suitable for educational, public outreach, and/or scientific purposes.

**Available Imagers:** The imagers available for use in this competition are on the GMOS-N instrument for Gemini and the MegaPrime instrument for CFHT.

-Detailed technical information about the GMOS-N imager may be found at:  
<http://www.gemini.edu/sciops/instruments/gmos/gmosIndex.html>  
under "GMOS Components".

-Detailed technical information about the MegaPrime imager may be found at:  
<http://www.cfht.hawaii.edu/Instruments/Imaging/MegaPrime/megaprimecomponents.html>

**Constraints on Allocated Time:** The "one hour" of time includes all instrumental overheads such as pointing and guide star acquisition. Assume an overhead of 20 minutes for Gemini North. Due to overheads, proposers are limited to a single target.

**Constraints on Targets:** Targets must be available at an altitude of greater than 30 degrees for at least an hour during the period November 1 to January 31. Target right ascensions between 12 and 17 hours will NOT be available during this time for most declinations of interest.

Dominion Astrophysical  
Observatory  
5071 W. Saanich Road  
Victoria, B.C. V9E 2E7

Telephone: (250) 363-0001  
Fax: (250) 363-0045

Email:  
Firstname.Lastname@NRC.CA

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Téléphone: (250) 363-0001  
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Courrier électronique:  
Prénom.Nom@NRC.CA

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**Canada**

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Content of the Proposal: Each proposal must be no more than 400 words long and may contain up to one additional page of diagrams and images. It must address the following questions:

- What is the special interest of this target?
- Why is it a good match to the imager on the telescope in question?
- Could the resulting images from this project be used in additional ways to promote science education and/or interest in astronomy?

The governing council or board of each local astronomy group shall decide if they wish their club to participate, and will then be responsible for deciding how and which proposal for each of the two telescopes is to be nominated. The selected proposal must be accompanied by a cover letter written by the leader of the board or council endorsing it for this competition.

Inquiries: All inquiries are to be directed to the Canadian Gemini Office. Under no conditions should the staff at either of the observatories be contacted directly.

Language: Proposals may be submitted in either official language.

Qualification: A single nominated observing proposal for each telescope may be received from the governing council or board of any amateur astronomy club listed in "Canadian Astronomy Clubs" in the May/June 2004 issue of SkyNews on pages 14 and 15. Each Centre of the Royal Astronomical Society of Canada is to be counted as a single club.

Use of Images: The proposers agree that the images will be placed in the public domain and that they will be jointly attributed to the proposers and the Gemini Observatory.

Media Coverage: The proposers agree that the images may be made freely available to news agencies and further agree to participate in any media interviews related to these observations.

Deadline: The nominated proposal from each group must be received by the Canadian Gemini Office by e-mail, FAX, or hardcopy no later than 4pm PDT, Thursday, September 30th, 2004.

Canadian Gemini Office  
National Research Council of Canada  
Herzberg Institute of Astrophysics  
5071 West Saanich Road  
Victoria, BC V9E 2E7  
FAX: (250) 363-0045

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## Page 3

**Evaluation:** A committee of three scientists will make the final selection of the winning Gemini-GMOS and CFHT-MegaPrime proposals. The decisions of this committee shall be final. Decisions on the winning proposal will be announced on or before October 31, 2004. Observations will be scheduled before January 31, 2005.

**Observing, Scheduling, and Data:** A member of the Canadian Gemini Office will act to assist the winners in scheduling and obtaining data. The observations will be obtained in queue mode, which does not require the presence of the proposer.

**Clarifications:** Should there be frequently asked questions or clarifications required for this competition, they will be posted on the Canadian Gemini Office webpages:  
[http://www.hia-ihc.nrc-cnrc.gc.ca/cgo/index\\_e.html](http://www.hia-ihc.nrc-cnrc.gc.ca/cgo/index_e.html) or

Canadian Gemini Office e-mail address:  
[Gemini@nrc-cnrc.gc.ca](mailto:Gemini@nrc-cnrc.gc.ca)

Doug Welch, Canadian Gemini Scientist ([welch@physics.mcmaster.ca](mailto:welch@physics.mcmaster.ca))  
Stephanie Cote, Canadian Gemini Astronomer ([Stephanie.Cote@nrc-cnrc.gc.ca](mailto:Stephanie.Cote@nrc-cnrc.gc.ca))

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### Subscription Offer for Members

Members of the club are eligible for a discount on Sky & Telescope Magazine subscriptions. The regular annual rate is \$49.95 (U.S.). HAA members pay only \$39.95 (U.S.).

Contact Ann Tekatch for information on how to sign up:

Ann Tekatch  
[tekatch@sympatico.ca](mailto:tekatch@sympatico.ca)  
905-575-5433

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[www.skypieces.com](http://www.skypieces.com)



[www.starlight-theatre.ca](http://www.starlight-theatre.ca)



[www.khanscope.com](http://www.khanscope.com)

# October 2004

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31 DST ends Halloween			For observing info, call Stewart Attlesey 827-9105, Rob Roy 692-3245, Glenn and Gail Muller 945-5050, Greg Emery greg.emery@mohawkcollege.ca, <a href="http://amateurastronomy.org/events.php">http://amateurastronomy.org/events.php</a>		September 2004	November 2004																																																																							
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